

AUG 05 1992



**Corporate Environmental,
Health & Safety**

715 East Gray Street
Louisville, Kentucky 40202
502/625-2243
FAX: 502/625-2244

Mr. Richard Spiese
Department of Environmental Conservation
Hazardous Materials Mgt. Division
103 South Main Street, West Building
Waterbury, Vermont 05671-0404

JULY 31, 1992

RE: Delisting of Residual Oil-Laden Soil
Northeast Tool Division, Lyndonville, Vermont

Dear Mr. Spiese:

By letter of December 16, 1991, sent by Environmental Science & Engineering, Inc. (ESE), Vermont American Corporation (VAC) proposed to proceed, following spring thaw, with additional sample collection and laboratory analysis necessary to apply for delisting of residual oil-laden soil at the referenced site. By letter of December 23, 1992, the Sites Management Section approved the proposed sampling plan. ESE has completed the necessary sampling and analysis and, based upon the results of those analyses, VAC submits, this letter petition seeking delisting of the residual oil-laden soil from the classification of hazardous waste. The location of the soil is the NE Tool Division facility on Pudding Hill Road, in the Village of Lyndonville, Vermont. Mr. John Young, Corporate Manager, Environmental Affairs, can be reached at (502) 625-2240 with regard to this request.

Materials included in waste:

The released material consisted solely of approximately 1500 gallons of recirculated cutting oil. As shown on the Material Safety Data Sheet (Appendix A), the oil is a formulated mixture of refined heavy paraffinic distillates, dewaxed heavy paraffinic distillates, and hydrotreated residual oils and heavy paraffinic distillates. The material is insoluble in water and has a high affinity for the soil to which it is bound.

Operation which generated the waste:

The oil was used in a recirculating system for cutting and grinding operations. The release occurred when an oil trench system plugged and overflowed, thus allowing the oil to flow into a storm water trench equipped with a sump pump, which pumped approximately 3000 gallons of oil to a ten foot deep dry well where it overflowed onto the ground surface. The

release was contained within the property boundaries of NE Tool and was reported to the State of Vermont.

Nature of the material:

The material to be delisted is soil which has come in contact with the cutting oil as a result of the release. The oil on the soil is colorless, odorless, non-volatile, and insoluble in water.

Amount and concentration of hazardous constituents:

Samples of the cutting oil from the recirculating system, grinding swarf (the sludge removed from the cutting oil through filtration), and soil from the affected area and from a background area, have been collected and analyzed. Table 1 provides a summary of the testing results. Analytical data sheets are provided in Appendix B.

As can be seen from Table 1, the recirculated cutting oil contains minimal levels of total metals. The grinding swarf, which constitutes the most concentrated residue, meets all RCRA TCLP criteria for organics and metals. The soil samples collected from areas where oil residue is present, as indicated by elevated TPH, were free of volatile organic constituents, met all criteria for TCLP metals, and contained levels of total metals similar to those found in the two background samples (NET106 and NET107).

Potential for migration:

The released cutting oil is a mixture of pure paraffinic compounds with a very low (1-3%) aromatic or metals content. There are no known toxic products of degradation. Because the oil is insoluble in water and has a strong affinity for adsorption onto soil particles, migration into the environment is unlikely.

Persistence:

Paraffin and paraffin oils are not significantly toxic. Although paraffin oils are very stable, under proper conditions of temperature, moisture, oxygen, and micronutrients, they will undergo bacterial degradation.

Plausible type of improper management:

Use as fill in a garden, crop land area, wetland or shoreline of a water body, or as sand for a child's sandbox would constitute improper management.

Damage to human health:

No information is available to show damage to human health or the environment as a result of improper management of soil contaminated with paraffinic distillates.

Actions by government agencies:

The applicant has not been able to find examples of actions taken by other government agencies or regulatory programs based on the hazard to human health or the environment posed by soil contaminated by paraffinic distillates.

Amount of waste:

The areal extent of the release was limited to an area of approximately 7000 square feet. Approximately six to eight inches of soil was excavated from the affected area in late April 1991. A total of 185 cubic yards of soil was removed and disposed of at an approved facility. Residual oil in soil was indicated in samples taken at five foot intervals in five twenty-foot borings located in the excavation area. The vertical extent of TPH concentrations vary within the spill area, but the contamination is generally expected to extend to a depth of five to six feet, except in the immediate location of the drywell.

Proposed remediation:

ESE set forth a proposed remediation plan in a June 17, 1992 letter, based on the nature of the material released. Because the cutting oil was recirculated, not virgin oil, the residual oil-laden soil was designated a hazardous waste by the State. Based on the information provided herein, ESE requests delisting of the soil from the hazardous waste designation and consideration of the remediation proposal previously submitted, and discussed below.

The goals for a remediation plan for the residual oil-laden soil should consider the following:

- fate and transport of contaminants;
- potential for runoff or infiltration;
- protection of human health and the environment; and
- cost effectiveness.

It is ESE's recommendation that the excavated area be backfilled with clean fill and the area covered with asphalt to restrict infiltration of precipitation. This recommendation is based upon the non-toxic nature of the cutting oil, on the industrial setting of the area, and on the reasonable conclusion that no environmental harm is created from the proposed remediation.

The release area is located on an industrial site and the site is isolated from the general public by a security fence. The benefits of backfilling and paving with asphalt include:

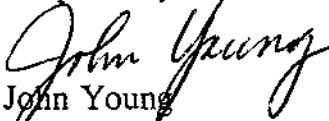
- minimization of infiltration; and
- elimination of the potential for surface water runoff.

Further, the depth to groundwater and the insolubility of the oil indicate that it is unlikely that groundwater will be affected, especially with the minimization of infiltration. Therefore, by controlling the potential pathways for migration, the threat to human health or the environment will be minimized.

If you have questions or comments please contact me.

Thank you.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John Young", is written over the printed name.

John Young
Corporate Manager
Environmental Affairs

TABLE 1
WASTE CHARACTERIZATION
Northeast Tool Division
Lyndonville, Vermont

AUG 05 1992

ANALYTE	RCRA LIMIT	CUTTING OIL	GRINDING SWARF	SOIL SAMPLES				
				NET102-2	NET103-2	NET104-2	NET106-2	NET107-2
WASTE CHARACTERISTICS								
Petrol. Hydrocarbon, mg/Kg	NS	NA	NA	62	509	370	63	57
Volatile Organics (8240), ug/kg	NS	NA	NA	ND	ND	ND	ND	ND
Total Metals, mg/kg								
Arsenic	NS	<2.0	NA	1.9	1.1	<1.0	<1.0	<1.0
Barium	NS	<4.0	NA	24.3	12.3	14.6	7.9	13.6
Cadmium	NS	0.7	NA	<0.51	<0.50	<0.50	<0.52	<0.52
Chromium	NS	<4.0	NA	12.6	9.1	12.6	5.9	11.7
Lead	NS	<4.0	NA	5.7	<5.0	9.8	<5.2	<5.2
Mercury	NS	<0.2	NA	0.023	<0.020	0.032	<0.020	0.021
Nickel	NS	2.7	NA	NA	NA	NA	NA	NA
Selenium	NS	<2.0	NA	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	NS	<2.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Zinc	NS	75	NA	NA	NA	NA	NA	NA
RCRA CHARACTERISTICS								
TCLP METALS (mg/L in extract)								
Arsenic	5.0	NA	<0.050	<0.50	<0.50	<0.50	<0.50	<0.50
Barium	100	NA	<0.50	0.67	0.48	0.50	0.41	0.43
Cadmium	1.0	NA	0.1	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium	5.0	NA	0.3	<0.10	<0.10	<0.10	<0.10	<0.10
Lead	5.0	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Mercury	0.2	NA	<0.01	<0.002	<0.002	<0.002	<0.002	<0.002
Selenium	1.0	NA	<0.05	<0.75	<0.75	<0.75	<0.75	<0.75
Silver	5.0	NA	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
TCLP VOLATILES (mg/L extract)								
Benzene	0.5	NA	<0.030	NA	NA	NA	NA	NA
Carbon Tetrachloride	0.5	NA	<0.014	NA	NA	NA	NA	NA
Chlorobenzene	100	NA	<0.030	NA	NA	NA	NA	NA
Chloroform	6.0	NA	<0.008	NA	NA	NA	NA	NA
1,2-dichloroethane	0.5	NA	<0.014	NA	NA	NA	NA	NA
1,1-dichloroethene	0.7	NA	<0.014	NA	NA	NA	NA	NA
Methyl Ethyl Ketone	200	NA	<0.15	NA	NA	NA	NA	NA
Tetrachloroethene	0.7	NA	<0.021	NA	NA	NA	NA	NA
Trichloroethene	0.5	NA	<0.01	NA	NA	NA	NA	NA
Vinyl Chloride	0.2	NA	<0.033	NA	NA	NA	NA	NA
TCLP A/BN (mg/L in extract)								
1,4-dichlorobenzene	7.5	NA	<0.050	NA	NA	NA	NA	NA
total cresol	200	NA	<0.10	NA	NA	NA	NA	NA
Hexachloroethane	3.0	NA	<0.013	NA	NA	NA	NA	NA
Nitrobenzene	2.0	NA	<0.019	NA	NA	NA	NA	NA
Hexachlorobutadiene	0.5	NA	<0.009	NA	NA	NA	NA	NA
2,4,6-trichlorophenol	2.0	NA	<0.10	NA	NA	NA	NA	NA
2,4,5-trichlorophenol	400	NA	<0.10	NA	NA	NA	NA	NA
2,4-dinitrotoluene	0.13	NA	<0.057	NA	NA	NA	NA	NA
Hexachlorobenzene	0.13	NA	<0.019	NA	NA	NA	NA	NA
Pentachlorophenol	100	NA	<0.036	NA	NA	NA	NA	NA
Pyridine	5.0	NA	<0.12	NA	NA	NA	NA	NA
TCLP HERB/PEST (mg/L extract)								
2,4-D	10	NA	<0.002	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	1.0	NA	<0.002	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	0.4	NA	<0.0004	NA	NA	NA	NA	NA
Endrin	0.02	NA	<0.0004	NA	NA	NA	NA	NA
Methoxychlor	10	NA	<0.001	NA	NA	NA	NA	NA
Toxaphene	0.5	NA	<0.004	NA	NA	NA	NA	NA
Heptachlor	0.008	NA	<0.0004	NA	NA	NA	NA	NA
Heptachlor Epoxide	0.008	NA	<0.0004	NA	NA	NA	NA	NA
Tech. Chlordane	0.03	NA	<0.004	NA	NA	NA	NA	NA

NS = no standard

NA = not analyzed

ND = none detected

APPENDIX A

CASTROL INDUSTRIAL EAST INC.

MATERIAL SAFETY DATA SHEET
Emergency Phone No.: (215) 443-7080
Information Phone No.: (215) 443-7080

FIRE
1
HEALTH 1 0 REACTIVITY
0
SPECIAL

I. MATERIAL IDENTIFICATION

PRODUCT TRADE NAME: SYN GRIND FGO 150
MANUFACTURER: CASTROL INDUSTRIAL EAST INC.

ADDRESS: 775 LOUIS DRIVE WARMINSTER PA, 18974

MFG. FACILITY ADDRESS:

Preparer: KJN

Preparation Date: 08/03/1990

II. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENTS	%	CAS No.	TLV (ACGIH)	PEL (OSHA)
Hydrotreated Heavy Paraffinic Distillates (petroleum)	10-20	64742-54-7	5 mg/M3	
Hydrotreated Residual Oils (petroleum)	10-20	64742-57-0	5 mg/M3	
Solvent-Dewaxed Heavy Paraffinic Distillates (petroleum)	10-20	64742-65-0	5 mg/M3	
Solvent-Refined Heavy Paraffinic Distillates (petroleum)	50-70	64741-88-4	5 mg/M3	

III. PHYSICAL PROPERTIES

APPEARANCE & ODOR: Clear light amber, characteristic odor
BOILING POINT °F (°C): NA NA
MELTING POINT °F (°C): NA NA
SPECIFIC GRAVITY (H2O=1): 0.870
VAPOR PRESSURE: NA
VAPOR DENSITY (AIR=1): NA
EVAPORATION RATE (BUTYL ACETATE=1): NA
%VOLATILES BY VOLUME: 0
SOLUBILITY IN H2O: Insoluble
pH AS IS: NA
pH (DILUTE): NA 3.0 %

IV. FIRE AND EXPLOSION HAZARDS

FLASHPOINT (method used)
NA °F NA °C COC

FLAMMABLE LIMITS

LEL NA UEL NA

EXTINGUISHING MEDIA:

Water fog, dry chemical, foam or CO2.

SPECIAL FIRE FIGHTING PROCEDURES:

Wear self contained breathing apparatus when fire fighting in a confined space. Cool fire exposed containers with waterspray to prevent rupture.

UNUSUAL FIRE & EXPLOSION HAZARDS: None

CONTAINER HANDLING: DO NOT CUT OR WELD EMPTY DRUMS UNLESS THOROUGHLY CLEANED.

V. REACTIVITY DATA

STABILITY:

Stable under normal conditions.

CONDITIONS TO AVOID: None

INCOMPATIBILITIES: Strong oxidizing agents

HAZARDOUS DECOMPOSITION: Oxides of carbon & phosphorus

HAZARDOUS POLYMERIZATION: Will Not Polymerize

VI. HEALTH HAZARD SUMMARY

ROUTES OF EXPOSURE AND EFFECTS OF OVEREXPOSURE

EYES:

May cause eye irritation.

SKIN ABSORPTION:

No acute effects expected.

SKIN CONTACT:

May cause skin irritation.

INHALATION:

Mists may cause respiratory irritation.

INGESTION:

LD50 not established. Do not ingest.

CHRONIC EFFECTS:

A review of the literature does not show obvious long term hazard.

THRESHOLD LIMIT VALUE: Not Established

CONTAINS KNOWN CARCINOGENS: no NTP: no IARC: no OSHA: no

EMERGENCY AND FIRST AID PROCEDURES

EYES:

Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

SKIN:

Wash skin with soap and water. If irritation occurs, get medical attention. Wash clothing before reuse.

INHALATION:

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

INGESTION:

If swallowed, call a physician immediately. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

VII. CONTROL MEASURES

RESPIRATORY PROTECTION:

Good industrial hygiene practices recommend that engineering controls be used to reduce environmental concentrations to the threshold limit value (TLV). If the associated TLV is exceeded, provide NIOSH approved respiratory protection.

GLOVES:

Impervious gloves such as rubber should be used when handling this product.

EYE PROTECTION:

Safety glasses with side shield or chemical goggles.

OTHER:

Eyewash facility. Appropriate clothing to avoid skin contact.

VIII. PRECAUTIONS

CONTAINMENT PROCEDURES:

Recover free liquid. Keep products out of streams and waterways by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas.

WASTE DISPOSAL PROCEDURES:

Dispose of in accordance with local, state, and federal regulations. Disposal of this material to the land may be banned by federal law (40 CFR 261).

STORAGE AND HANDLING PROCEDURES:

DO NOT store near heat, flame or strong oxidizing agents.

RCRA HAZARDOUS WASTE DESIGNATION:

This product does not fall under current EPA RCRA definitions of hazardous waste.

IX. OTHER HAZARD INFORMATION

Petroleum Oil -- Using the terminology of the International Agency for Research on Cancer (IARC), the oil is classified by the supplier as a 'severely treated naphthenic/paraffinic.' The supplier has stated that the does not require a carcinogen label as defined by OSHA 29 CFR 1910.1200.

X. ADDITIONAL REGULATORY INFORMATION

OCCUPATIONAL SAFETY and HEALTH ADMINISTRATION (OSHA)

29 CFR 1910.1200 Hazardous Chemical: yes

SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA)

Section 302, Extremely Hazardous Substance: no

Section 311, Hazardous Chemical: yes

Immediate: yes Delayed: no Fire: no Sudden Release: no Reactive: no

Section 313, Toxic Chemical: no

TOXIC SUBSTANCES CONTROL ACT (TSCA)

The individual ingredients in the product are listed in the TSCA inventory.

DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME: PETROLEUM OILS, GREASES & RELATED PROD.

HAZARD CLASS (49 CFR 172.101): NA

HAZARD ID NUMBER: NA

DISCLAIMER

Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or the use of any product in violation of any patent or in violation of any law or regulation. It is the users' responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.

APPENDIX B



P.O. Box 339
Randolph, Vermont 05060-0339
(802) 728-6313

LABORATORY REPORT

CLIENT NAME:	Northeast Tool Company	LABORATORY NO.:	2-0359
ADDRESS:	Vermont American Corp. Lyndonville, VT 05851	PROJECT NO.:	77511
		DATE OF SAMPLE:	2/27/92
		DATE OF RECEIPT:	3/5/92
ATTENTION:	Teal Couture	DATE OF REPORT:	5/21/92

OIL SAMPLE RESULTS

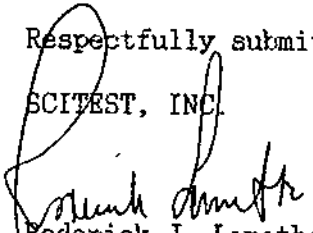
(Expressed as milligrams per kilogram mg/kg oil (ppm), unless otherwise noted)

<u>Parameter</u>	<u>Results, ppm</u>
Arsenic	<2.0
Barium	<4.0
Cadmium	0.7
Chromium	<4.0
Lead	<4.0
Mercury	<0.2
Nickel	2.7
Selenium	<2.0
Silver	<2.0
Zinc	75
BTU (BTU/lb)	19000

Method: Test Methods for Evaluating Solid Wastes, SW 846, November, 1986, 3th Edition.

Respectfully submitted,

SCITEST, INC.


Roderick J. Lamothe
Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574

Laboratory Sample Number: 904500.3

Date Received: 08/28/90

Sample Matrix: Solid

Date Reported: 09/11/90

Condition of Samples: Satisfactory

Field Prep: None

Number & Type of Containers: Four glass bottles & four VOA vials

Analysis Requested: Analysis as listed below

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/PREP	ANALYSIS
TCLP Extraction	----	-----	---	13	----	08/29/90	-----
RCRA 8 Metals							
Arsenic	ND	mg/L	0.05	1	7060	----	09/07/90
Barium	ND	mg/L	0.5	1	6010	----	09/07/90
Cadmium	0.1	mg/L	0.1	1	6010	----	09/07/90
Chromium	0.3	mg/L	0.2	1	6010	----	09/07/90
Lead	ND	mg/L	0.5	1	6010	----	09/07/90
Mercury	ND	mg/L	0.01	1	7470	----	09/07/90
Selenium	ND	mg/L	0.05	1	7740	----	09/07/90
Silver	ND	mg/L	0.1	1	6010	----	09/07/90
Acid/Base Neutral Extractables							
• Total cresol	ND	ug/L	100	1	8270	----	09/06/90
• 2,4-Dinitrotoluene	ND	ug/L	57	1	8270	----	09/06/90
• Hexachlorobenzene	ND	ug/L	19	1	8270	----	09/06/90
• Hexachloro-1,3-butadiene	ND	ug/L	9	1	8270	----	09/06/90
• Hexachloroethane	ND	ug/L	13	1	8270	----	09/06/90
• Nitrobenzene	ND	ug/L	19	1	8270	----	09/06/90
• Pentachlorophenol	ND	ug/L	36	1	8270	----	09/06/90
• 2,4,5-Trichlorophenol	ND	ug/L	100	1	8270	----	09/06/90
• 2,4,6-Trichlorophenol	ND	ug/L	100	1	8270	----	09/06/90
millions							
Acid/Base/Neutral Extractables			%	Surrogate	Recovery		
2-Fluorophenol				64%			
Phenol-d5				55%			
Nitrobenzene-d5				71%			
2-Fluorobiphenyl				83%			
2,4,6-Tribromophenol				33%			
4-Terphenyl-d14				69%			

COMMENTS: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574

Laboratory Sample Number: 904500.3 Date Received: 08/28/90
Sample Matrix: Solid Date Reported: 09/11/90
Condition of Samples: Satisfactory Field Prep: None
Number & Type of Containers: Four glass bottles & three VOA vials
Analysis Requested: Analysis as listed below

CONTINUED

PARAMETER	RESULT	UNITS	MDL	REF*	METHOD	DATES	
						EXT/PREP	ANALYSIS
TCLP Extraction	----	-----	---	13	----	08/29/90	-----
Pesticides/Herbicides:							
• Chlordane	ND	ug/L	4.0	1	8080	----	09/08/90
• Endrin	ND	ug/L	0.4	1	8080	----	09/08/90
• Heptachlor	ND	ug/L	0.4	1	8080	----	09/08/90
• Heptachlor epoxide	ND	ug/L	0.4	1	8080	----	09/08/90
• Lindane	ND	ug/L	0.4	1	8080	----	09/08/90
• Methoxychlor	ND	ug/L	1.0	1	8080	----	09/08/90
• Toxaphene	ND	ug/L	4.0	1	8080	----	09/08/90
• 2,4-D	ND	ug/L	2.0	1	8150	----	09/08/90
• 2,4,5-TP	ND	ug/L	2.0	1	8150	----	09/08/90
TCLP Extraction	----	-----	---	13	----	09/01/90	-----
Volatile Organics							
Benzene	ND	ug/L	30.0	1	8260	----	09/08/90
Carbon tetrachloride	ND	ug/L	14	1	8260	----	09/08/90
Chlorobenzene	ND	ug/L	30	1	8260	----	09/08/90
Chloroform	ND	ug/L	8	1	8260	----	09/08/90
1,4-Dichlorobenzene	ND	ug/L	50	1	8260	----	09/08/90
1,2-Dichloroethane	ND	ug/L	14	1	8260	----	09/08/90
1,1-Dichloroethylene	ND	ug/L	14	1	8260	----	09/08/90
Tetrachloroethylene	ND	ug/L	20.5	1	8260	----	09/08/90
Trichloroethylene	ND	ug/L	9.5	1	8260	----	09/08/90
Vinyl chloride	ND	ug/L	32.50	1	8260	----	09/08/90
Methyl ethyl ketone	ND	ug/L	150	1	8260	----	09/08/90
Pyridine	ND	ug/L	125	1	8260	----	09/08/90
<u>Volatile Organics</u>							
			<u>% Surrogate Recovery</u>				
1,2-Dichloroethane-d4			97%				
Toluene-d8			104%				
4-Bromofluorobenzene			98%				

COMMENTS: * Complete list of References found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA 086 NH 198958-A CT PH-0574

Laboratory Sample Number: 904500.3S Date Received: 08/28/90
Sample Matrix: Solid Date Reported: 09/11/90
Condition of Samples: Satisfactory Field Prep: None
Number & Type of Containers: One glass bottle
Analysis Requested: Analysis as listed below

PARAMETER	%RECOVERY
Acid/Base/Neutral Extractables	
P-chloro-m-cresol	61%
P-chlorophenol	69%
Phenol	58%
Acenaphthene	99%
1,2,4-Trichlorobenzene	88%
1,4-Dichlorobenzene	75%
2,4-Dinitrotoluene	79%
N-nitrosodi-n-propylamine	72%
Pyrene	93%

COMMENTS: * Complete list of References found in Addendum I



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

CLIENT PROJECT NAME		NETOOL						
CLIENT PROJECT NUMBER		5352						
ESE SAMPLE		7794*1	7794*2	7794*3	7794*4			
SAMPLE DATE		06/18/92	06/18/92	06/18/92	06/18/92			
DESCRIPTION	UNITS	NET-102-2 SOIL	NET-103-2 SOIL	NET-104-2 SOIL	NET-106-2 SOIL	METHOD NO.	DATE ANALYZED	ANALYST
ARSENIC	MG/KG	1.9	1.1	< 1.0	< 1.0	7060	06-24-92	ELZ
BARIUM	MG/KG	24.3	12.3	14.6	7.9	6010	06-24-92	NMM
CADMIUM	MG/KG	< 0.51	< 0.50	< 0.50	< 0.52	6010	06-24-92	NMM
CHROMIUM	MG/KG	12.6	9.1	12.6	5.9	6010	06-24-92	NMM
LEAD	MG/KG	5.7	< 5.0	9.8	< 5.2	6010	06-24-92	NMM
MERCURY	MG/KG	0.023	< 0.020	0.032	< 0.020	7471	06-25-92	ELZ
SELENIUM	MG/KG	< 0.5	< 0.5	< 0.5	< 0.5	7740	06-26-92	GRS
SILVER	MG/KG	< 1.0	< 1.0	< 1.0	< 1.0	6010	06-24-92	NMM
TOTAL PETROLEUM HYDROCARBON (IR)	MG/KG	62	509	370	63	418.1	06-23-92	MJM
TCLP METALS								
=====								
ARSENIC	MG/L	< 0.500	< 0.500	< 0.500	< 0.500	6010	06-25-92	NMM
BARIUM	MG/L	0.666	0.481	0.504	0.411	6010	06-25-92	NMM
CADMIUM	MG/L	< 0.050	< 0.050	< 0.050	< 0.050	6010	06-25-92	NMM
CHROMIUM	MG/L	< 0.100	< 0.100	< 0.100	< 0.100	6010	06-25-92	NMM
LEAD	MG/L	< 0.500	< 0.500	< 0.500	< 0.500	6010	06-25-92	NMM
MERCURY	MG/L	< 0.002	< 0.002	< 0.002	< 0.002	7470	06-23-92	ELZ
SELENIUM	MG/L	< 0.750	< 0.750	< 0.750	< 0.750	6010	06-25-92	NMM
SILVER	MG/L	< 0.100	< 0.100	< 0.100	< 0.100	6010	06-25-92	NMM

Report Approved by:

Barbara G. Raya-Mash
Barbara G. Raya-Mash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

CLIENT PROJECT NAME NETOOL
CLIENT PROJECT NUMBER 5352

ESE SAMPLE		7794*1	7794*2	7794*3	7794*4			
SAMPLE DATE		06/18/92	06/18/92	06/18/92	06/18/92			
DESCRIPTION	UNITS	NET-102-2 SOIL	NET-103-2 SOIL	NET-104-2 SOIL	NET-106-2 SOIL	METHOD NO.	DATE ANALYZED	ANALYST
VOLATILE ORGANIC COMPOUNDS								
CHLOROMETHANE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
BROMOMETHANE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
VINYL CHLORIDE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
CHLOROETHANE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
METHYLENE CHLORIDE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
ACETONE	UG/KG	10B	< 10	< 10	10B	8240	06-23-92	SMC
CARBON DISULFIDE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,1-DICHLOROETHENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,1-DICHLOROETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,2-DICHLOROETHENE (TOTAL)	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
CHLOROFORM	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,2-DICHLOROETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
2-BUTANONE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
1,1,1-TRICHLOROETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
CARBON TETRACHLORIDE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
VINYL ACETATE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
BROMODICHLOROMETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,2-DICHLOROPROPANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
CIS-1,3-DICHLOROPROPENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC

B = Compound found in blank.

Report Approved by:

Barbara G. Raya-Hash
Barbara G. Raya-Hash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

CLIENT PROJECT NAME NETOOL
CLIENT PROJECT NUMBER 5352

ESE SAMPLE SAMPLE DATE		7794*1 06/18/92	7794*2 06/18/92	7794*3 06/18/92	7794*4 06/18/92			
DESCRIPTION	UNITS	NET-102-2 SOIL	NET-103-2 SOIL	NET-104-2 SOIL	NET-106-2 SOIL	METHOD NO.	DATE ANALYZED	ANALYST
VOLATILE ORGANIC COMPOUNDS (Cont'd)								
TRICHLOROETHENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
DIBROMOCHLOROMETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,1,2-TRICHLOROETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
BENZENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
TRANS-1,3-DICHLOROPROPENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
BROMOFORM	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
4-METHYL-2-PENTANONE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
2-HEXANONE	UG/KG	< 10	< 10	< 10	< 10	8240	06-23-92	SMC
TETRACHLOROETHENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
1,1,2,2-TETRACHLOROETHANE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
TOLUENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
CHLOROBENZENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
ETHYLBENZENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
STYRENE	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC
XYLENES, TOTAL	UG/KG	< 5	< 5	< 5	< 5	8240	06-23-92	SMC

Report Approved by: Barbara G. Rayz-Hash
Barbara G. Rayz-Hash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

=====

CLIENT PROJECT NAME	NETOOL
CLIENT PROJECT NUMBER	5352

=====

ESE SAMPLE 7794*5
SAMPLE DATE 06/18/92

DESCRIPTION	UNITS	NET-107-2 SOIL	METHOD NO.	DATE ANALYZED	ANALYST
ARSENIC	MG/KG	< 1.0	7060	06-24-92	ELZ
BARIUM	MG/KG	13.6	6010	06-24-92	NMM
CADMIUM	MG/KG	< 0.52	6010	06-24-92	NMM
CHROMIUM	MG/KG	11.7	6010	06-24-92	NMM
LEAD	MG/KG	< 5.2	6010	06-24-92	NMM
MERCURY	MG/KG	0.021	7471	06-25-92	ELZ
SELENIUM	MG/KG	< 0.5	7740	06-26-92	GRS
SILVER	MG/KG	< 1.0	6010	06-24-92	NMM

TOTAL PETROLEUM HYDROCARBON (IR)	MG/KG	57	418.1	06-23-92	MJM
-------------------------------------	-------	----	-------	----------	-----

TCLP METALS

=====

ARSENIC	MG/L	< 0.500	6010	06-25-92	NMM
BARIUM	MG/L	0.430	6010	06-25-92	NMM
CADMIUM	MG/L	< 0.050	6010	06-25-92	NMM
CHROMIUM	MG/L	< 0.100	6010	06-25-92	NMM
LEAD	MG/L	< 0.500	6010	06-25-92	NMM
MERCURY	MG/L	< 0.002	7470	06-23-92	ELZ
SELENIUM	MG/L	< 0.750	6010	06-25-92	NMM
SILVER	MG/L	< 0.100	6010	06-25-92	NMM

Report Approved by:

Barbara G. Raya-Nash
Barbara G. Raya-Nash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

CLIENT PROJECT NAME
CLIENT PROJECT NUMBER

NETOOL
5352

ESE SAMPLE
SAMPLE DATE

7794*5
06/18/92

DESCRIPTION

UNITS

NET-107-2
SOIL

METHOD
NO.

DATE
ANALYZED

ANALYST

VOLATILE ORGANIC COMPOUNDS
=====

CHLOROMETHANE	UG/KG	< 10	8240	06-23-92	SMC
BROMOMETHANE	UG/KG	< 10	8240	06-23-92	SMC
VINYL CHLORIDE	UG/KG	< 10	8240	06-23-92	SMC
CHLOROETHANE	UG/KG	< 10	8240	06-23-92	SMC
METHYLENE CHLORIDE	UG/KG	< 5	8240	06-23-92	SMC
ACETONE	UG/KG	< 10	8240	06-23-92	SMC
CARBON DISULFIDE	UG/KG	< 5	8240	06-23-92	SMC
1,1-DICHLOROETHENE	UG/KG	< 5	8240	06-23-92	SMC
1,1-DICHLOROETHANE	UG/KG	< 5	8240	06-23-92	SMC
1,2-DICHLOROETHENE (TOTAL)	UG/KG	< 5	8240	06-23-92	SMC
CHLOROFORM	UG/KG	< 5	8240	06-23-92	SMC
1,2-DICHLOROETHANE	UG/KG	< 5	8240	06-23-92	SMC
2-BUTANONE	UG/KG	< 10	8240	06-23-92	SMC
1,1,1-TRICHLOROETHANE	UG/KG	< 5	8240	06-23-92	SMC
CARBON TETRACHLORIDE	UG/KG	< 5	8240	06-23-92	SMC
VINYL ACETATE	UG/KG	< 10	8240	06-23-92	SMC
BROMODICHLOROMETHANE	UG/KG	< 5	8240	06-23-92	SMC
1,2-DICHLOROPROPANE	UG/KG	< 5	8240	06-23-92	SMC
CIS-1,3-DICHLOROPROPENE	UG/KG	< 5	8240	06-23-92	SMC

Report Approved by:

Barbara G. Raya-Hash
Barbara G. Raya-Hash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

CLIENT PROJECT NAME
CLIENT PROJECT NUMBER

NETOOL
5352

ESE SAMPLE
SAMPLE DATE

7794*5
06/18/92

DESCRIPTION

UNITS

NET-107-2
SOIL

METHOD
NO.

DATE
ANALYZED

ANALYST

VOLATILE ORGANIC COMPOUNDS (Cont'd)

TRICHLOROETHENE	UG/KG	< 5	8240	06-23-92	SMC
DIBROMOCHLOROMETHANE	UG/KG	< 5	8240	06-23-92	SMC
1,1,2-TRICHLOROETHANE	UG/KG	< 5	8240	06-23-92	SMC
BENZENE	UG/KG	< 5	8240	06-23-92	SMC
TRANS-1,3-DICHLOROPROPENE	UG/KG	< 5	8240	06-23-92	SMC
BROMOFORM	UG/KG	< 5	8240	06-23-92	SMC
4-METHYL-2-PENTANONE	UG/KG	< 10	8240	06-23-92	SMC
2-HEXANONE	UG/KG	< 10	8240	06-23-92	SMC
TETRACHLOROETHENE	UG/KG	< 5	8240	06-23-92	SMC
1,1,2,2-TETRACHLOROETHANE	UG/KG	< 5	8240	06-23-92	SMC
TOLUENE	UG/KG	< 5	8240	06-23-92	SMC
CHLOROBENZENE	UG/KG	< 5	8240	06-23-92	SMC
ETHYLBENZENE	UG/KG	< 5	8240	06-23-92	SMC
STYRENE	UG/KG	< 5	8240	06-23-92	SMC
XYLENES, TOTAL	UG/KG	< 5	8240	06-23-92	SMC

Report Approved by:

Barbara G. Raya-Hash
Barbara G. Raya-Hash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

=====

CLIENT PROJECT NAME
CLIENT PROJECT NUMBER

NETOOL
5352

=====

ESE SAMPLE
SAMPLE DATE

7794*6
06/18/92

DESCRIPTION

UNITS

FLD BLK
WATER

METHOD
NO.

DATE
ANALYZED

ANALYST

ARSENIC	MG/L	< 0.010	206.2	06-24-92	ELZ
BARIUM	MG/L	< 0.010	200.7	06-24-92	NMM
CADMIUM	MG/L	< 0.005	200.7	06-24-92	NMM
CHROMIUM	MG/L	< 0.010	200.7	06-24-92	NMM
LEAD	MG/L	< 0.005	239.2	06-24-92	NMM
MERCURY	MG/L	< 0.0002	245.2	06-25-92	ELZ
SELENIUM	MG/L	< 0.005	270.2	06-26-92	GRS
SILVER	MG/L	< 0.010	200.7	06-24-92	NMM
=====					
TOTAL PETROLEUM HYDROCARBON (IR)	MG/L	< 1	418.1	06-23-92	MJM

Report Approved by:

Barbara G. Raya-Hash
Barbara G. Raya-Hash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

CLIENT PROJECT NAME NETOOL
CLIENT PROJECT NUMBER 5352

ESE SAMPLE 7794*6
SAMPLE DATE 06/18/92

DESCRIPTION	UNITS	FLD BLK WATER	METHOD NO.	DATE ANALYZED	ANALYST
-------------	-------	------------------	---------------	------------------	---------

VOLATILE ORGANIC COMPOUNDS
=====

CHLOROMETHANE	UG/L	< 10	8240	06-23-92	SMC
BROMOMETHANE	UG/L	< 10	8240	06-23-92	SMC
VINYL CHLORIDE	UG/L	< 10	8240	06-23-92	SMC
CHLOROETHANE	UG/L	< 10	8240	06-23-92	SMC
METHYLENE CHLORIDE	UG/L	< 5	8240	06-23-92	SMC
ACETONE	UG/L	< 10	8240	06-23-92	SMC
CARBON DISULFIDE	UG/L	< 5	8240	06-23-92	SMC
1,1-DICHLOROETHENE	UG/L	< 5	8240	06-23-92	SMC
1,1-DICHLOROETHANE	UG/L	< 5	8240	06-23-92	SMC
1,2-DICHLOROETHENE (TOTAL)	UG/L	< 5	8240	06-23-92	SMC
CHLOROFORM	UG/L	< 5	8240	06-23-92	SMC
1,2-DICHLOROETHANE	UG/L	< 5	8240	06-23-92	SMC
2-BUTANONE	UG/L	< 10	8240	06-23-92	SMC
1,1,1-TRICHLOROETHANE	UG/L	< 5	8240	06-23-92	SMC
CARBON TETRACHLORIDE	UG/L	< 5	8240	06-23-92	SMC
VINYL ACETATE	UG/L	< 10	8240	06-23-92	SMC
BROMODICHLOROMETHANE	UG/L	< 5	8240	06-23-92	SMC
1,2-DICHLOROPROPANE	UG/L	< 5	8240	06-23-92	SMC
CIS-1,3-DICHLOROPROPENE	UG/L	< 5	8240	06-23-92	SMC

Report Approved by: Barbara G. Raya-Wash
Barbara G. Raya-Wash
ESE Project Manager



Environmental
Science &
Engineering, Inc.

8901 North Industrial Road Peoria, IL 61615-1589
Phone (309) 692-4422 Lab Fax (309) 692-5232

An IEPA Contract Laboratory

TO: ENVIRONMENTAL SCIENCE & ENGINEERING, INC.
ONE OVERLOOK DRIVE, UNIT 16
AMHERST, NH 03031
ATTN: MR. GARY WILSON

REPORT DATE: 06-26-92
DATE RECEIVED: 06-20-92
PROJECT NUMBER: 591-5110

=====

CLIENT PROJECT NAME	NETOOL
CLIENT PROJECT NUMBER	5352

=====

ESE SAMPLE 7794*6
SAMPLE DATE 06/18/92

=====

DESCRIPTION	UNITS	FLDBLK WATER	METHOD NO.	DATE ANALYZED	ANALYST
-------------	-------	-----------------	---------------	------------------	---------

VOLATILE ORGANIC COMPOUNDS (Cont'd)

=====

TRICHLOROETHENE	UG/L	< 5	8240	06-23-92	SMC
DIBROMOCHLOROMETHANE	UG/L	< 5	8240	06-23-92	SMC
1,1,2-TRICHLOROETHANE	UG/L	< 5	8240	06-23-92	SMC
BENZENE	UG/L	< 5	8240	06-23-92	SMC
TRANS-1,3-DICHLOROPROPENE	UG/L	< 5	8240	06-23-92	SMC
BROMOFORM	UG/L	< 5	8240	06-23-92	SMC
4-METHYL-2-PENTANONE	UG/L	< 10	8240	06-23-92	SMC
2-HEXANONE	UG/L	< 10	8240	06-23-92	SMC
TETRACHLOROETHENE	UG/L	< 5	8240	06-23-92	SMC
1,1,2,2-TETRACHLOROETHANE	UG/L	< 5	8240	06-23-92	SMC
TOLUENE	UG/L	< 5	8240	06-23-92	SMC
CHLOROBENZENE	UG/L	< 5	8240	06-23-92	SMC
ETHYLBENZENE	UG/L	< 5	8240	06-23-92	SMC
STYRENE	UG/L	< 5	8240	06-23-92	SMC
XYLENES, TOTAL	UG/L	< 5	8240	06-23-92	SMC

Report Approved by:

Barbara G. Raya-Hash
Barbara G. Raya-Hash
ESE Project Manager